

Remarks

A formalized Drawing is attached as required by the Examiner.

The title has been amended for enhanced specificity.

The amendments to the specification change the tense of verbs from past to present tense.

An inadvertent typographical error has corrected in Paragraph 26 of the specification, now properly referring to -- surface layer 11 -- as required by the Examiner. No new matter is introduced.

The amendments to claim 1, 10, 11 and 12 are presented in response to the Examiner's objections in Paragraph 6 of the Office Action. Insertion of -- p-type -- is for clarity, as required by the Examiner.

New dependent claim 13 is added for exemplary heating temperatures as supported by the original disclosure in Paragraph 19.

Paragraph 7 of the Office Action

Applicant respectfully traverses the rejection of claims 1-12 under Section 103 over Li et al. MRS publication in view of Grisolia et al. In agreement with the Examiner's reading, "Li et al. does not disclose the step of removing [material] from the initial surface portion, thereby forming the device region having a new surface form where the resistivity peak is at a reduced depth". Grisolia et al, at page 852, second column, lines 9, 10, teaches to anneal at a temperature of 450 degrees C merely to form bubbles and to reduce thickness by beveling the edges of the wafer only for observation and testing. The applicant asserts that the resulting test structure will be inoperative as a semiconductor.

In the present claimed invention, steps are recited to make a semiconductor device including heating the initial surface region to form a spreading resistivity profile as recited by claim 1. More specifically, as stated in Paragraph 19 of the present specification, ". . . benefits of the invention can be realized also with a single annealing step, e.g. at 900 degrees C for 4 hours . . . Benefits include control of the spreading resistivity profile on an active layer, in MOSFET as well as bi-polar devices." As Grisolia et al. teaches neither such benefit, nor operative conditions under which the

benefit accrues, a person of ordinary skill would not consider the applicant's claimed invention as obvious in view of the references. And indeed, as they lack a teaching of motive, the person would fail to combine the references in the first place.

With claim 1 being allowable as argued, claims 2-13 are allowable as dependent claims even without reliance on additionally recited features.

For an additional distinguishing feature, specifically with regard to claim 4, Grisolia et al at page 852, first column, lines 1-16, including references, teaches to proton-irradiate the surface of a wafer to a depth and then to delaminate the material where all the defects stand. The delaminated layer is then reversed so that the initial top surface is glued to a substrate wafer, and any resistivity peak at the new top surface is then polished away. Such steps of Grisolia et al. completely reverse the configuration of his structure as compared with the present claimed invention and therefore teach away from the present invention.

For yet another distinguishing feature, specifically with regard to claim 12, the Examiner concurs that Li et al. and Grisolia et al. do not disclose the step of growing a crystalline region on the device region.

For reasons stated, the applicant maintains that his claimed invention is allowable over the prior art and respectfully requests reconsideration of the application and allowance of Claims 1-13.

Respectfully submitted by

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